

STN

~~Recd~~  
PB attachment

FILE 'CAPLUS, MEDLINE' ENTERED AT 14:15:13 ON 03 JAN 2001  
L1 4 S BETA BETA-CAROTENE 15,15-DIOXYGENASE  
L2 93 S WYSS  
L3 1 S L2 AND CAROTENE  
L4 99 S CAROTENE AND DIOXYGENASE  
L5 9 S L4 A

# Dialog

Set	Items	Description
?s	carotene (1n)	dioxygenase
	63661	CAROTENE
	20848	DIOXYGENASE
	S1	120 CAROTENE (1N) DIOXYGENASE
?s	s1 (10n)	beta
	120	S1
	3259781	BETA
	S2	70 S1 (10N) BETA
?s	beta (10n)	carotene (10n) dioxygenase
	3259781	BETA
	63661	CAROTENE
	20848	DIOXYGENASE
	S3	245 BETA (10N) CAROTENE (10N) DIOXYGENASE
?s	beta (10n)	carotene
	3259781	BETA
	63661	CAROTENE
	S4	47883 BETA (10N) CAROTENE
?s	s4 (10n)	dioxygenase
	47883	S4
	20848	DIOXYGENASE
	S5	238 S4 (10N) DIOXYGENASE

?t s2/3,k/1-70

**2/3,K/6 (Item 6 from file: 5)**

DIALOG(R)File 5:Biosis Previews(R)

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**In vitro and in vivo inhibition of \*beta\*\*carotene\* \*dioxygenase\* activity by canthaxanthin in rat intestine.**

AUTHOR: Grolier Pascal(a); Duszka Christelle; Borel Patrick;  
Alexandre-Gouabau Marie-Cecile; Azais-Braesco Veronique

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JOURNAL: Archives of Biochemistry and Biophysics 348 (2):p233-238 Dec. 15,  
1997

ISSN: 0003-9861

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

**In vitro and in vivo inhibition of \*beta\*\*carotene\* \*dioxygenase\* activity by canthaxanthin in rat intestine.**

ABSTRACT: \*beta\*\*Carotene\* \*dioxygenase\* catalyzes the conversion of provitamin A carotenoids to vitamin A in mammalian tissues. Whether the enzyme can also cleave non-provitamin A carotenoids to retinoid analogs with biological activities is still unclear. We investigated (i) substrate specificities of \*beta\*\*carotene\* \*dioxygenase\* toward provitamin A and non-provitamin A carotenoids and (ii) potential antagonistic effects of non-provitamin A carotenoids on beta-carotene conversion to vitamin A...

...carotene for intestinal absorption and inhibits the conversion of beta-carotene to vitamin A. Thus, we suggest that although canthaxanthin is not a substrate for \*beta\*\*carotene\* \*dioxygenase\*, it is likely to affect the activity of provitamin A carotenoids by direct interaction with the enzyme.

DESCRIPTORS:

CHEMICALS & BIOCHEMICALS: \*beta\*\*carotene\* \*dioxygenase\*--

**2/3,K/13 (Item 3 from file: 34)**

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

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08623350 Genuine Article#: 308DP No. References: 30

Title: Filling the gap in vitamin A research - Molecular identification of an enzyme cleaving beta-carotene to retinal

Author(s): vonLintig J; Vogt K (REPRINT)  
Corporate Source: UNIV FREIBURG, INST BIOL NEUROBIOL & TIERPHYSIOL 1,  
HAUPTSTR 1/D-79104 FREIBURG//GERMANY/ (REPRINT); UNIV FREIBURG, INST  
BIOL NEUROBIOL & TIERPHYSIOL 1/D-79104 FREIBURG//GERMANY/  
Journal: JOURNAL OF BIOLOGICAL CHEMISTRY, 2000, V275, N16 (APR 21), P  
11915-11920  
ISSN: 0021-9258 Publication date: 20000421  
Publisher: AMER SOC BIOCHEMISTRY MOLECULAR BIOLOGY INC, 9650 ROCKVILLE  
PIKE, BETHESDA, MD 20814  
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

...Abstract: is the oxidative cleavage of beta-carotene; however, this enzymatic step has resisted molecular analysis. A novel approach enabled us to clone and identify a \*beta\*-carotene\* dioxygenase\* from *Drosophila melanogaster*, expressing it into the background of a \*beta\*-carotene (provitamin A)-synthesizing and -accumulating *Escherichia coli* strain. The carotene-cleaving enzyme, identified here for the first time on the molecular level, is the...

2/3,K/28 (Item 3 from file: 71)  
DIALOG(R)File 71:ELSEVIER BIOBASE  
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01426815 20000101963  
**Filling the gap in vitamin A research. Molecular identification of an enzyme cleaving beta-carotene to retinal**  
Von Lintig J.; Vogt K.  
ADDRESS: J. Von Lintig, Albert-Ludwig Universitat Freiburg, Institut fur Biologie I, Neurobiologie und Tierphysiologie, Hauptstrasse 1, D-79104 Freiburg, Germany  
EMAIL: lintig@unifreiburg.de  
Journal: Journal of Biological Chemistry, 275/16 (11915-11920), 2000, United States  
PUBLICATION DATE: April 21, 2000  
CODEN: JBCHA  
ISSN: 0021-9258  
DOCUMENT TYPE: Article  
LANGUAGES: English SUMMARY LANGUAGES: English  
NO. OF REFERENCES: 30

...is the oxidative cleavage of beta-carotene; however, this enzymatic step has resisted molecular analysis. A novel approach enabled us to clone and identify a \*beta\*-carotene\* dioxygenase\* from *Drosophila melanogaster*, expressing it into the background of a \*beta\*-carotene (provitamin A)-synthesizing and -accumulating *Escherichia coli* strain. The carotene-cleaving enzyme, identified here for the first time on the molecular level, is the...?e au=wyss

Ref	Items	Index-term
E1	2	AU=WYSPIANSKI J O
E2	1	AU=WYSPIANSKI JO
E3	2	*AU=WYSS
E4	92	AU=WYSS A
E5	2	AU=WYSS A N
E6	36	AU=WYSS A R
E7	4	AU=WYSS A W
E8	25	AU=WYSS A.
E9	13	AU=WYSS A.R.
E10	6	AU=WYSS ADRIAN
E11	2	AU=WYSS AN
E12	1	AU=WYSS AND, MURIEL

Enter P or PAGE for more

?s e4 and s3  
92 AU=WYSS A  
245 S3  
S14 3 AU="WYSS A" AND S3  
?e au=woggon

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?s s3 and e23

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S17 2 S3 AND AU="WOGGON WD"

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?s s3 and e30

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S18 3 S3 AND AU="BRUGGER R"

?e au=bachmann H

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E4 3 AU=BACHMANN H -G  
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S19 3 S3 AND AU="BACHMANN H"

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E7 10 AU=HUNZIKER WILLI  
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E9           5 AU=HUNZIKER  
E10        4 AU=HUNZIKER Y.  
E11        2 AU=HUNZIKER YVONNE  
E12        1 AU=HUNZIKER-DEAN J

Enter P or PAGE for more

?s s3 and e3

245 S3  
128 AU=HUNZIKER W.  
S20       2 S3 AND AU="HUNZIKER W."

?t s14/3,k/all